

FIG. 1

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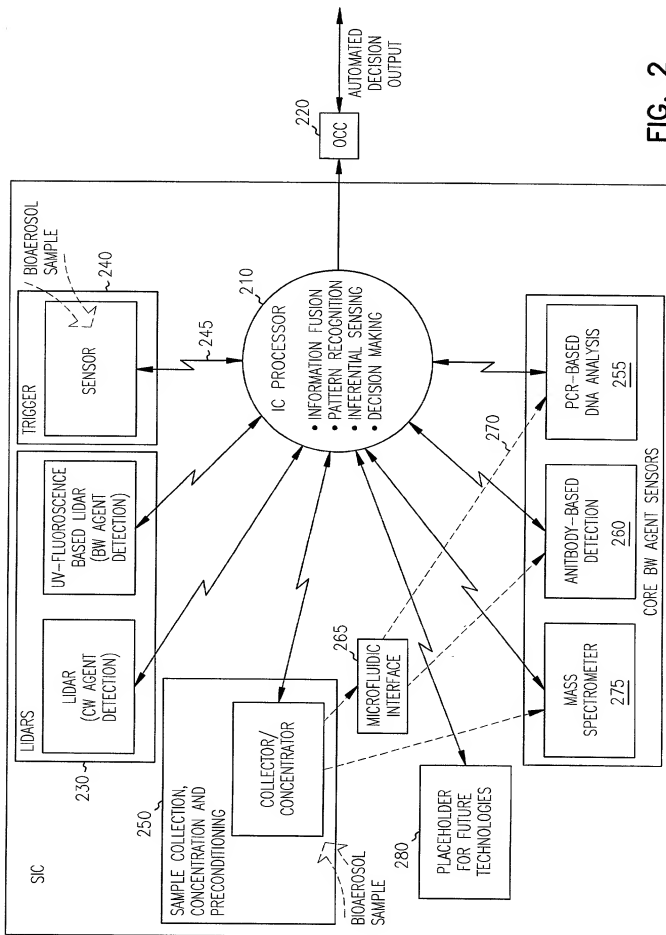


FIG. 2

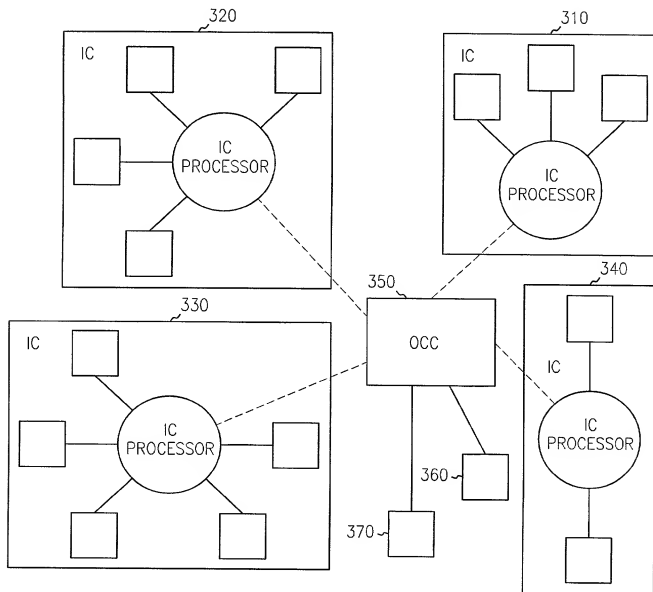
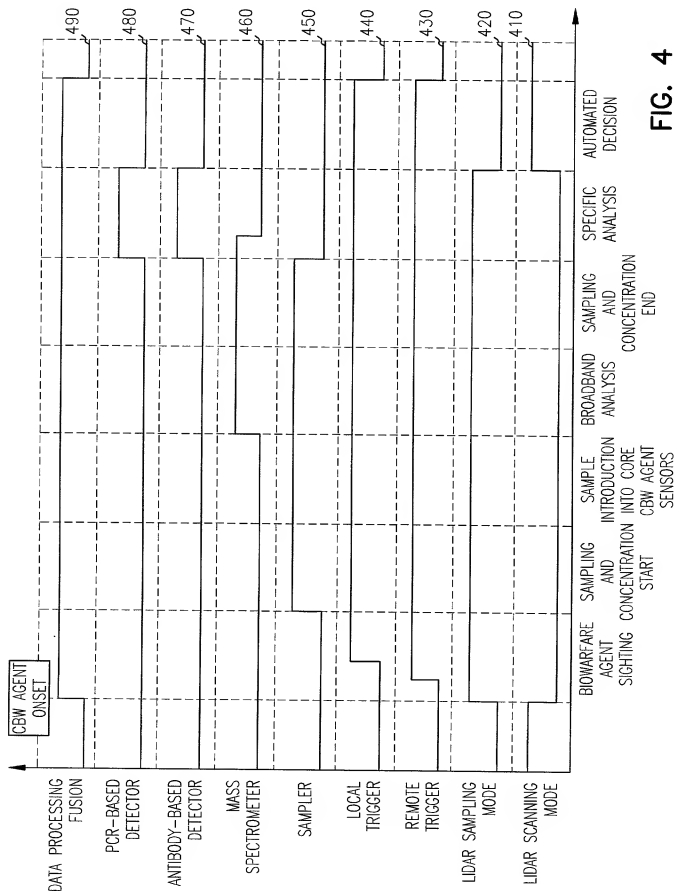


FIG. 3



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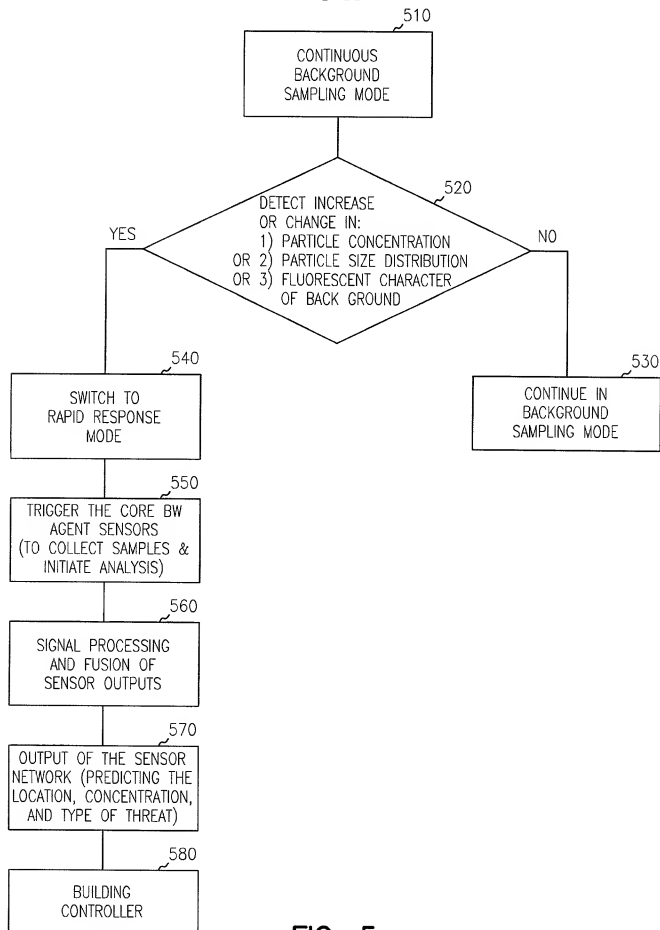


FIG. 5

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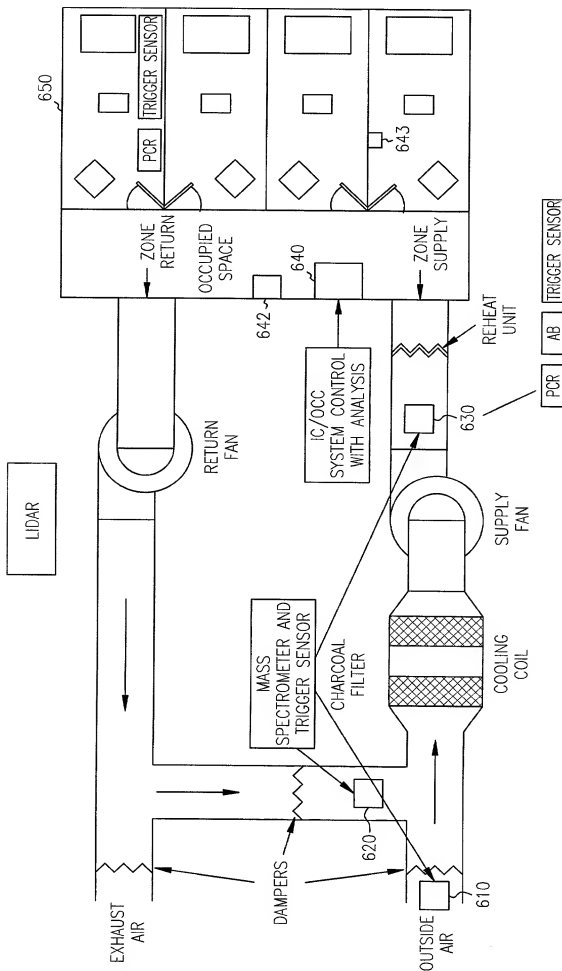


FIG. 6

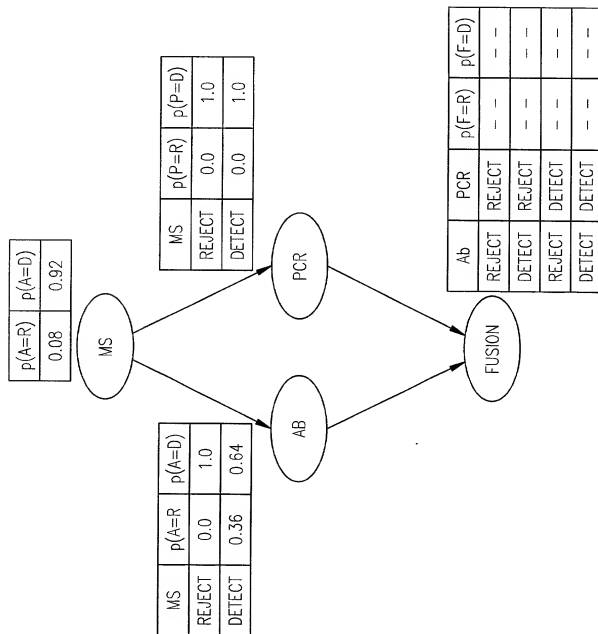


FIG. 7

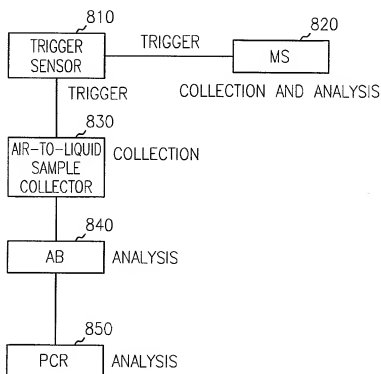


FIG. 8A

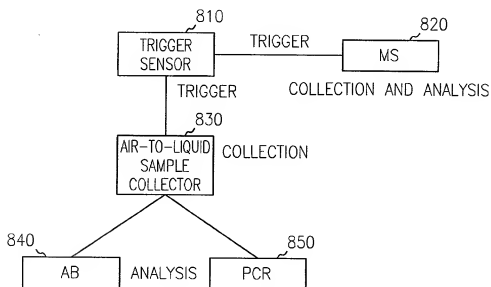


FIG. 8B

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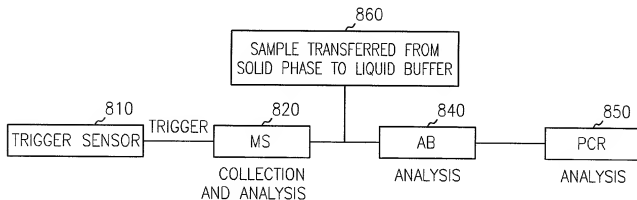


FIG. 8C

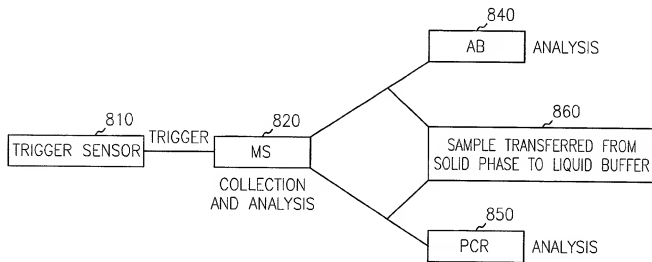


FIG. 8D

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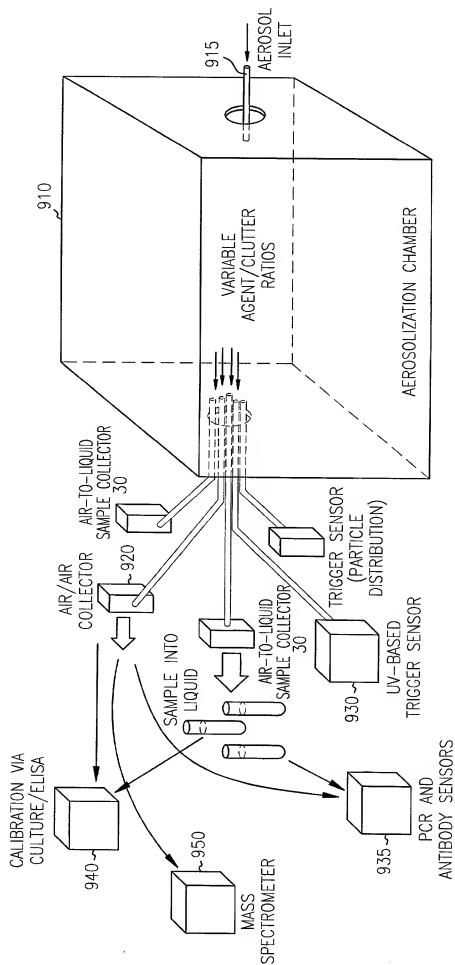


FIG. 9

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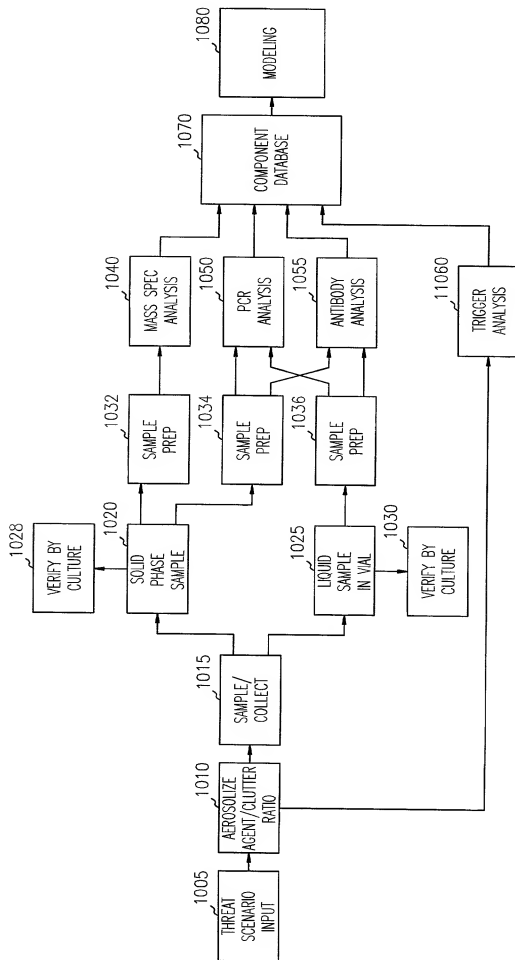


FIG. 10

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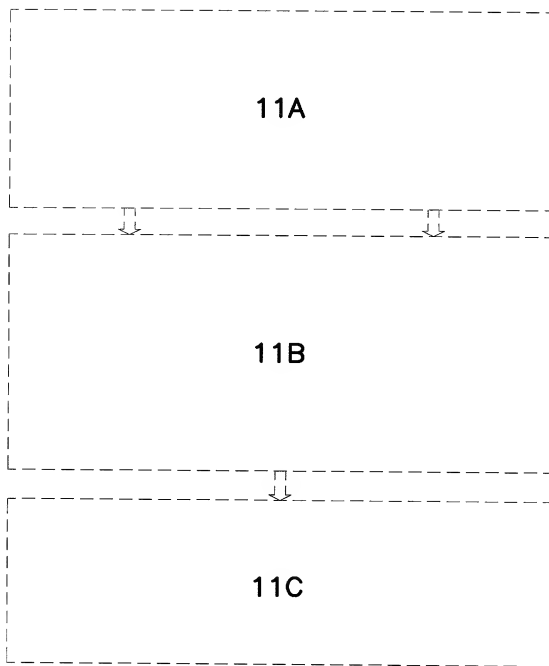


FIG. 11

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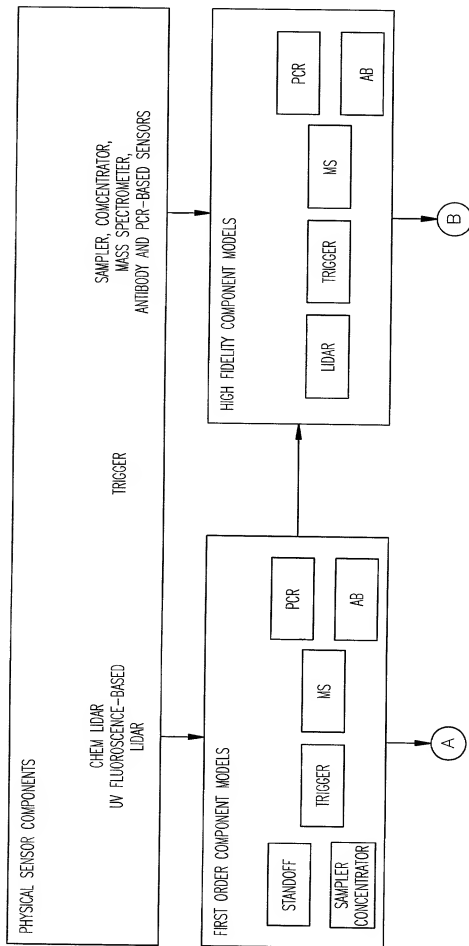
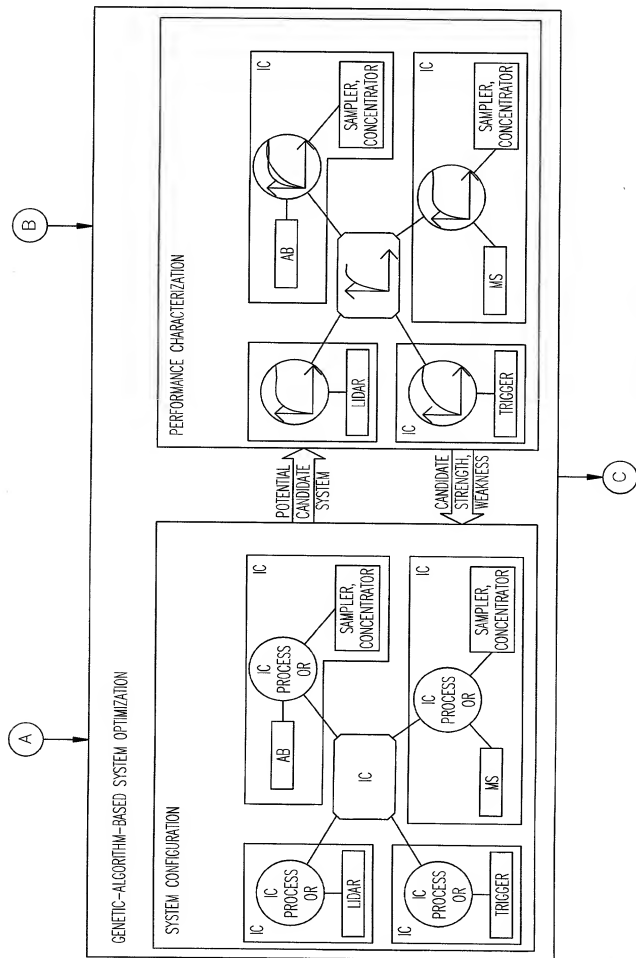


FIG. 11A

FOIREF:06072001



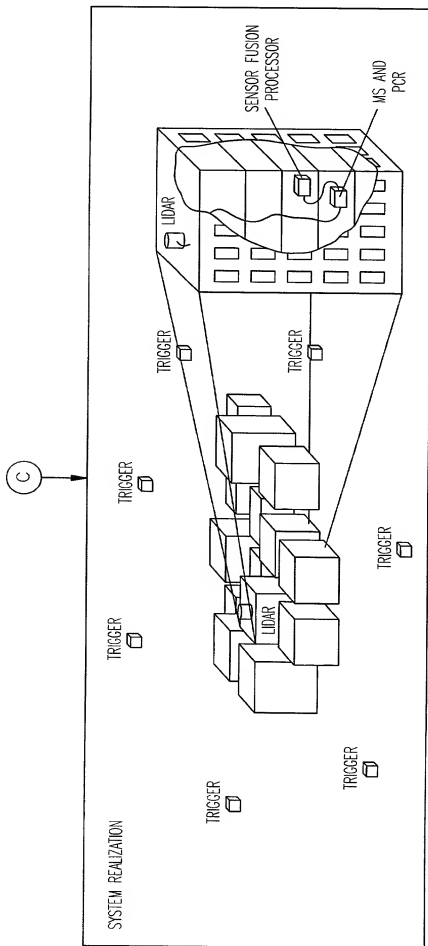


FIG. 11C

OPTIMIZATION PROCESS

VARY SYSTEM CONFIGURATIONS AND DETECTOR THRESHOLDS TO:

- MAXIMIZE PROBABILITY OF DETECTION (P_D)
- MINIMIZE PROBABILITY OF FALSE ALARM (P_{FA})
- MINIMIZE TIME OF RESPONSE (T_R)
- MINIMIZE CONSUMABLE COST (\$)
- MAXIMIZE MEAN TIME BEFORE SERVICE (MTBS)

$$Q \sim \frac{P_D \cdot \text{MTBS}}{P_{FA} \cdot T_R \cdot \$}$$

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Q = FIGURE OF MERIT FOR THE NETWORK

DETERMINE AND OPTIMIZE THE FIGURE OF MERIT
DEPENDING UPON THREAT SCENARIOS

FIG. 12